

CONTENT OF VOLUME 12

COMPUTATIONAL PHYSICS

Issue Page

1 vii Preface. D. Biskamp
1 viii Organizing and programme committees.
1 ix List of participants.
1 1 The formation of protostars. W. Tscharnutter
1 9 Numerical modelling of pulsar magnetospheres. M. Petracic
1 21 The advance from 2D electrostatic to 3D electromagnetic particle simulation. O. Buneman
1 33 Computation of ideal MHD equilibria. K. Lackner
1 45 Recent developments in the computational aspects of MHD stability. R.C. Grimm,
J.L. Johnson
1 53 Non-linear behaviour of hydromagnetic instabilities. J.A. Wesson
1 67 Numerical solution of continuity equations. J.P. Boris
1 81 Symbolic computation of nonlinear wave interactions on MACSYMA. A. Bers, J.L. Kulp,
C.F.F. Karney
1 99 Finite difference and finite element methods. K.W. Morton
1 109 Computation of Tokamak transport. C. Mercier, J.P. Boujot, F. Werkoff
1 121 Convection in stars. E. Graham
2 125 Double Chebyshev expansions for wave functions. V.B. Sheorey
2 135 Finite element approximation for the wave-particle interaction in weakly turbulent plasmas.
K. Appert, T.M. Tran, J. Vaclavik
2 145 Comment on the use of FORMAC73 in general relativity. A.D. Payne
2 259 Announcement: second summer school on computational physics.
3 261 The calculation of eigenvalues and eigenfunctions in an asymptotically Coulomb potential.
I.H. Aldeen, A.C. Allison, M.J. Jamieson
3 267 Computer analysis of experimental results on differential scattering of electrons by gases.
R.Ch. Baas, R.H.J. Jansen

COMPUTER PROGRAMS IN PHYSICS

Issue Page

2 147 FOURGEN: a fast Fourier transform program generator. J.A. Maruhn
2 163 Sequential random integer generator. C.T.K. Kuo, T.W. Cadman, R.J. Arsenault
2 173 Algorithms for the Kac and Renyi tests. J.M.F. Chamayou
2 179 Coulomb coefficients for complex ionic crystals. D.C. Sutherland, W.G. Ferrier

COMPUTER PROGRAMS IN PHYSICS (cont.)*Issue Page*

2 199 Multistate molecular treatment of atomic collisions in the impact parameter approximation. III — Integration of coupled equations and calculation of transition amplitudes for Coulomb trajectories. R.D. Piacentini, A. Salin

2 205 COLLRAD: a code for calculating the quasi—steady state population densities of excited states of hydrogen—like ions. G.J. Tallents

2 213 GLOWCODE: a one—dimensional code for the simulation of plasma afterglows. J.W. Long, A.A. Newton, M.C. Sexton

2 231 Calculation of the energy response of a spectrometer. J. Lotrian, M. Leriche, J. Cariou

2 237 PIPIT: a momentum space optical potential code for pions. R.A. Eisenstein, F. Tabakin

3 277 A program for calculating the observables for single—particle—inclusive production reactions. K.J.M. Moriarty, J.H. Tabor

3 293 Exact—finite—range microscopic calculations for heavy—ion induced two—nucleon transfer reactions. D.H. Feng, B.T. Kim, T. Udagawa, T. Tamura, K.S. Low

3 305 A program for the calculation of the positions of X—ray powder reflections. I.F. Ferguson, R.S. Fox, T.E. Hughes

3 323 PULSAMP: a program to predict the amplification of nano—second CO₂ laser light pulses. S.A. Roberts, K. Smith

3 335 Adaptation of a program for depth distribution of energy deposition by ion bombardment: calculation of ion lateral ranges. I. Manning, M. Rosen, J.E. Westmoreland

3 339 Erratum notice. Depth distribution of energy deposition by ion bombardment. I. Manning, G.P. Mueller